

4547-F

TESTER, ELECTRICAL SAFETY

1. GENERAL. This procurement requires an electrical safety tester designed for operation in Wye and Delta line voltage configurations to test for hazardous shock potentials on two and three conductor portable electrical equipment.

2. CLASSIFICATION. Class 3 in accordance with MIL-PRF-28800 for shipboard and shore applications.

3. OPERATIONAL REQUIREMENTS. The equipment shall be capable of testing portable electrical equipment for hazardous operational conditions within the minimum specifications identified below.

3.1 Ground continuity test characteristics. The equipment shall provide a Wye and Delta system ground continuity test to verify ground system operation in portable electrical equipment.

3.1.1 Maximum test voltage. 6 Vac at 60 Hz.

3.1.2 Failure threshold. A safety interlock to prevent further testing and a failure indicator shall be provided when the ground circuit resistance exceeds 0.2 ohms maximum.

3.1.3 Test current. 25A minimum, 30A maximum, into a load from short to 0.2 ohms.

3.2 Leakage current test characteristics. The equipment shall be capable of measuring the leakage current from line voltage to chassis ground.

3.2.1 Leakage current test range. 0 to 10 mA. Accuracy 3% fs.

3.3 Insulation breakdown test characteristics. The equipment shall provide an insulation breakdown test to verify the insulation on portable electrical equipment.

3.3.1 Test voltage. 500 Vac.

3.3.2 Maximum short circuit current. 12.6 mA.

3.3.3 Leakage current trip. 5 mA, Accuracy 4%

3.3.4 Failure indicator. The equipment shall provide a visual indication when insulation breakdown occurs.

3.4 Voltage and current rating. The instrument shall provide an operational check to verify voltage and current ratings of equipment under test to at least 120 Vac, 60 Hz, 15A.

3.4.1 Current indicator. 0 to 15A minimum. Accuracy 3% fs.

4. GENERAL REQUIREMENTS.

4.1 Power source. MIL-PRF-28800 nominal power source requirements are invoked. Maximum power consumption: 2000W when unit is under maximum load. The equipment shall meet all specifications herein when supplied from shipboard power systems as outlined in MIL-STD-1399 Section 300A and typical 115 Vac commercial power.

4.2 Weight. 20 kg (44 lb) maximum.

4.3 Battery restrictions. Per MIL-PRF-28800, lithium and mercury batteries are prohibited without prior authorization. Requests for approving the use of lithium and/or mercury batteries, including those encapsulated in integrated circuits, shall be submitted to the procuring activity at the time of submission of proposals. Approval shall apply only to the specific model proposed.

4.4 Receptacle. The equipment shall provide a 3-wire 15A isolated ground receptacle for equipment under test.

4.5 Y2K Compliance. The equipment shall be certified Y2k compliant and capable of operation within the minimum accuracies, limits, and specifications set forth herein on and after calendar year 2000 without the need for additional programming or configuration.